

## Solar Energy South Africa

# Using wind cannon to make steam generator



## Overview

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If you've ever burned yourself with steam, you'll know it's incredibly painful—and much more so than an ordinary hot water burn. If water and steam are at the same temperature, why does steam hurt more?

Simply because it contains.

If you've ever seen an old-fashioned steam locomotive, you'll have some idea just how powerful steam can be. A steam locomotive is built around a steam engine, a complex machine based on a simple idea: you can.

A turbine is a spinning wheel that gets its energy from a gas or liquid moving past it. A windmill or a wind turbine takes energy from the wind, while a waterwheel or water turbine is usually driven by a river flowing over, under, or around it.

How does a steam turbine generator work?

A steam turbine generator works by heating water to extremely high temperatures until it is converted into steam, then the steam energy is used to rotate the blades of a turbine to create mechanical or rotational energy. This rotational energy caused by the high pressured steam turbine is used to generate electricity from an attached generator.

How does steam generate electricity?

Electricity can be generated by steam by using a steam turbine generator. The pressure of the steam acts as a force to rotate a turbine which will produce electricity inside of a generator. Steam electricity is usually produced in a steam turbine generator that is an impulse or reaction turbine.

What is a steam turbine?

A Steam Turbine is a mechanical device that extracts thermal energy from pressurized steam and transforms it into mechanical work. What is Steam Turbine?

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How do turbines cool steam?

Turbines also vary in how they cool the steam that passes through them. Condensing turbines (used in large power plants to generate electricity) turn the steam at least partly to water using condensers and giant concrete cooling towers.

How does a steam generator work?

In steam generation the heat source, combustion, and the working fluid are separated, typically by a wall of heat-resistant material (e.g., steel tubes). Electricity generation is one of the main uses of steam generators with a turbine.

Can solar power power a steam turbine generator?

Coal power and other fossil fuels also efficiently heat water into steam but they come with a high rate of air pollution and greenhouse gas emission. Concentrated solar power has the advantage of being a clean, renewable source of heat for a steam turbine generator but does not produce heat as efficiently as nuclear or coal power.

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### INTEGRATED DESIGN

EASY TO TRANSPORT AND INSTALL,  
FLEXIBLE DEPLOYMENT

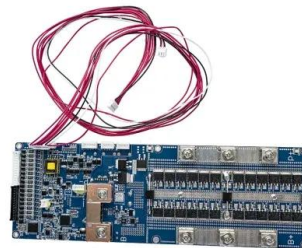


### Possible to make a cheap and simple steam electric ...

Would it be possible to make a very compact and lightweight steam engine powering an electric generator that can be taken back country camping and used to keep lights and other devices charged the entire time ...

### 27 Homemade Generators For Running Small ...

Cheap and Easy To Build DIY Wind Generator, Image via: [motherearthnews](#) 4- Homemade Gas Generator. These free plans will show you how to build a small and powerful gas generator. It is a DC generator that is run by a 4 stroke ...



### The Science of Wind Energy: How Turbines Convert Air into ...

When the wind blows, it carries with it a significant amount of energy due to the motion of air molecules. This kinetic energy can be harnessed and converted into electricity through the use ...

### Here's how to make your own steam engine generator at home

This will turn the liquid in the soda pop can into

steam, activating the syringe piston, and drive the generator. Hey presto, you magically get some power! If you enjoyed this project, you might



### 3.1: Basics of Electricity Production from Steam Turbines

Water can be used for driving a turbine for electricity - it is known as hydroelectricity. Figure 3.1a shows the schematic of a water wheel and how it works, and Figure 3.1b shows a picture of a modern turbine. A turbine ...



### How could I get a steam-powered generator for off-grid electricity?

Steam engines are complex and the boilers have to be recertified on a regular basis to ensure they are still in good condition. A simpler steam engine is one of the less efficient ways to ...



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